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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,531	11/02/2001	Timothy Beatty	6944-PA01	9191
27111	7590	07/14/2005	EXAMINER	
GORDON & REES LLP 101 WEST BROADWAY SUITE 1600 SAN DIEGO, CA 92101			ELMORE, REBA I	
			ART UNIT	PAPER NUMBER
			2187	

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/005,531

Applicant(s)

BEATTY ET AL.

Examiner

Reba I. Elmore

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15, 21-25 and 36-43 is/are rejected.
- 7) ☒ Claim(s) 13, 14, 16-20, 26-35 and 44-47 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-47 are presented for examination.

SPECIFICATION

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

35 USC § 102

3. The rejection of claims 1-47 as being anticipated by Bachmat is *withdrawn* due to Applicant's remarks.
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-2, 21-25 and 36-43 are rejected under 35 U.S.C. 102(a) as being anticipated by Greiner et al. (P/N 6,286,089).

6. Greiner teaches the invention (claim 1) as claimed including a system for dynamic file allocation comprising:

an input device for receiving a data object as facility structures (e.g., see col. 6, lines 12-22);

a reference container is taught as translation tables which store the virtual addresses of the objects (e.g., see col. 8, lines 2-21), coupled to the input device, for directing the data object to a location in a storage object as part of the coupling facility operation (e.g., see col. 10, lines 7-39), coupled to the reference container (e.g., see Figure 2), the reference container comprising:

a publishing point which contains a virtual mapping system that directs the data object to an entry in the storage object as the virtual mapping system being taught as the dynamic address translator and virtual addressing within the coupling facility (e.g., see Figures 1 and 9 and col. 10, lines 7-49).

As to claim 2, Greiner teaches the storage object is comprised of a plurality of data containers as the storage object comprising one or more data objects (e.g., see Figures 5-6 and 9).

As to claim 3, Greiner teaches the storage object is comprised of one data container as the storage object comprising one or more data objects (e.g., see Figures 5-6 and 9).

As to claim 4, Greiner teaches the virtual mapping system comprises a reference object which is assigned to the data object and indicates the address in the plurality of data containers where the data object is located as the list structure (e.g., see Figure 6).

As to claim 5, Greiner teaches each data container in the plurality of data containers comprises:

a transfer space to temporarily store data objects being relocated as the dynamic storage heap which is used as temporary storage for relocating objects when data object space must be reconfigured to allocate the necessary storage area (e.g., see col. 7, line 57 to col. 8, line 67).

As to claim 6, Greiner teaches the publishing point comprises:

an import space for temporarily storing the data object as the dynamic storage heap (e.g., see (e.g., see col. 8, lines 1-15);

a reference space, coupled to the import space, for storing the reference objects as the control storage (e.g., see col. 7, lines 41-55); and,

an available space, coupled to the reference space, containing unused storage in the publishing point (e.g., see col. 7, lines 58-67).

As to claim 7, Greiner teaches the data object is selected from a group consisting of a byte, file and directory as being inherent as all data objects must either be bytes of data, files or directories.

As to claim 8, Greiner teaches the reference object is a set of bits defining the location of the data object in the plurality of data containers as the addresses necessary for storing the data objects (e.g., see Figures 1-3 and col. 5, line 30 to col. 6, line 67).

As to claim 9, Greiner teaches each data container in the plurality of data containers obtains storage from a storage pool (e.g., see col. 8, lines 16-30).

As to claim 10, Greiner teaches each data container in the plurality of data containers returns unused storage to the storage pool as the reapportionment of entries (e.g., see col. 8, lines 57-61).

As to claim 11, Greiner teaches the size of the storage pool can be increased by adding more storage and wherein power is not disrupted in the file system as the deallocation process which returns storage increments to the pool thereby increasing the pool size without any indication of having to reboot or otherwise shut down or restart the coupling facilities (e.g., see col. 8, lines 62-67).

As to claim 12, Greiner teaches an operator sets a maximum size to each data container in the plurality of data containers as the page size which must be set for the dynamic storage system as being inherent as the system could not function without this parameter being established at the onset of the use of the system.

As to claim 15, Greiner teaches the new data container is created if there is no storage space available in the plurality of data containers as using as many data containers as necessary for the storage of the control object and data object to be stored (e.g., see Figure 9).

7. Greiner teaches the invention (claim 21) as claimed including a method of dynamically allocating a data object in a file system, the method comprising the steps of:

detecting the data object in a data space of a source data container to be relocated as the reapportionment process which determines the need for expansion or contraction of a data structure (e.g., see col. 8, lines 42-61);

copying the data object to the transfer space of a target container as removing the data object from the dynamic storage heap to the system memory pool (e.g., see col. 8, line 1-41); and,

transferring the data object from the transfer space of the target data container to the data space of the target data container as removing the data object from the dynamic storage heap to the system memory pool (e.g., see col. 8, line 1-41).

As to claim 22, Greiner teaches updating the reference object to indicate the address of the data object in the target data container as establishing the control object (e.g., see col. 7, lines 21-56); and,

storing the reference object in the publishing point as creating the virtual addresses for the storage space of the data object (e.g., see col. 7, lines 41-56).

As to claim 23, Greiner teaches the reference object is stored in a reference space within the publishing point as creating the virtual addresses for the storage space of the data object (e.g., see col. 7, lines 41-56).

As to claim 24, Greiner teaches spawning a relocater to manage the transfer of the data object from the source data container to the target data container as the process of storing the control object and the data object (e.g., see col. 7, lines 21-67).

As to claim 25, Greiner teaches the relocater updates the reference objects as the process of storing the control object and the data object (e.g., see Figures 5-7 and col. 7, lines 21-67).

8. Greiner teaches the invention (claim 36) as claimed including a method of dynamically allocating a data object in a file system, the method comprising the steps of:

entering the data object into an input device as a function of the coupling facility (e.g., see col. 6, lines 12-22);

storing the data object in a publishing point which uses a virtual mapping system that directs the data object to an entry in the storage object as the virtual mapping system being taught as the dynamic address translator and virtual addressing within the coupling facility (e.g., see Figures 1 and 9 and col. 10, lines 7-49);

assigning a reference object to the data object as the establishing of the virtual address using the dynamic address translation capabilities of the system (e.g., see 6, lines 5-56); and,

relocating the data object to a transfer space of a data container chosen from a plurality of data containers as storing the data object (e.g., see col. 7, lines 21-67).

As to claim 37, Greiner teaches the data object is stored in an import space of the publishing point and wherein additional storage space is acquired from a available space of the publishing point if there is not enough space in the import space as using as many pages for storing the data object as needed for the size of the data object (e.g., see Figures 5-6 and 9).

As to claim 38, Greiner teaches the reference object indicates the address in the data container where the data object is stored as part of the control object (e.g., see Figures 5-6 and 9).

As to claim 39, Greiner teaches the reference object is transferred from the import space of the publishing point to the reference space of the publishing point as transferring the data object from the dynamic storage heap to the system memory (e.g., see col. 8, lines 1-41).

As to claim 40, Greiner teaches spawning a relocater to assist in the storing of the data object as the process of storing the control object and the data object (e.g., see col. 7, lines 21-67).

As to claim 41, Greiner teaches the mode manager spawns a relocater to assist in relocating the data object from the import space of the publishing point to the transfer space of the data container as this mode manager functionality being a function of the coupling facility (e.g., see col. 10, lines 7-49).

As to claim 42, Greiner teaches the mode manager spawns a container for each container in the plurality of data containers as providing as many data containers as necessary for storing the data objects (e.g., see Figures 5-6 and 9).

As to claim 43, Greiner teaches the mode manager cycles through each container in the plurality of data containers to test for the relocation threshold as providing as many data containers as necessary for storing the data objects (e.g., see Figures 5-6 and 9).

ALLOWABLE SUBJECT MATTER

9. Claims 13-14, 16-20, 26-35 and 44-47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. Claim 13 reads over the art of record as the prior art does not teach or suggest the data object is to be relocated from a first data container in the plurality of data containers to a second data container in the plurality of data containers dependent upon a relocation threshold on each data container with the relocation threshold being set by an operator in conjunction with the intervening claim limitations.
11. Claims 14 and 16-17 would also be allowable as they are dependent upon claim 13.
12. Claim 18 reads over the art of record as the prior art of record does not teach or suggest each data container in the plurality of data containers is coupled to a container monitor to monitor that each data container in the plurality of data containers has adequate available space in conjunction with the intervening claim limitations.
13. Claims 19 and 20 would also be allowable as they are dependent upon claim 18.
14. Claim 26 reads over the art of record as the prior art does not teach or suggest verifying the copy of the data object in the source data container is identical to the data object in the target data container in conjunction with the intervening claim limitations .
15. Claims 27-35 would also be allowable as they are dependent upon claim 26.

16. Claim 44 reads over the art of record as the prior art does not teach or suggest an operator setting a time interval to test the relocation threshold in conjunction with the intervening claim limitations.

17. Claims 45-47 would also be allowable as they are dependent upon claim 44).

RESPONSE TO APPLICANT'S REMARKS

18. Applicant's arguments, filed April 19, 2005, with respect to the rejection(s) of claim(s) 1-47 under 35 USC § 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Greiner et al.

PRIOR ART OF INTEREST

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sturges (P/N 5,930,827) is directed toward dynamic memory management and virtual address mapping.

CONCLUSION

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reba I. Elmore, whose telephone number is (571) 272-4192. The examiner can normally be reached on M-TH from 7:30am to 6:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor for AU 2187, Donald Sparks, can be reached for general questions concerning this application at (571) 272-4201. Additionally, the official fax phone number for the art unit is (703) 746-7239.

Art Unit: 2187

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center central telephone number is (571) 272-2100.



Reba I. Elmore
Primary Patent Examiner
Art Unit 2187

July 9, 2005